FLIGHT

The AIRCRAFT ENGINEER & AIRSHIPS

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:

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Sept. 2–17.... International Concours Aviatique, Rotterdam
Sept. 8–10.... 1,000 Miles Race round Britain for the King's Trophy
Sept. .... Tyrrhenian Cup, Italy
Sept. .... Italian Grand Prix
Sept. or Oct. R.Ae.C. Race Meeting, at Waddon
Sept. 30 .... Coupe Deutsch (300 kil.)
Oct. 16–21 Daily Mail £1,000 Gliding Competition.
Dec. 15–Jan. 2 Paris Aero Exhibition

1923.

June .... International Air Congress, London
Dec. 1 .... Entries Close for French Aero Engine Competition

1924.

Mar. 1 .... French Aero Engine Competition.
Mar. 15 .... Entries close for Dutch Height Indicator Competition

EDITORIAL COMMENT.

IN a most lucid and clearly-reasoned letter in *The Times* of August 28th Admiral Mark Kerr recalls the dictum that "War is an affair of communications," and goes on to give illustrations of the way in which, in modern times, the greatest danger to communications comes from the air, reiterating that it is, therefore, essential that command of the air should be in the hands of any country which hopes to be successful in war. In future wars the opening struggle will be between the fleets of the air, endeavouring to preserve their own and destroying the lines of communications of the enemy. The gallant Admiral points out that there is nothing new in this strategy; it is merely new weapons applied to old principles. He then asks how we are to arrive at a proper state of preparedness to preserve the Empire from ruin, and answers the question by stating that first we must rouse public opinion, which task he considers the duty of the Press, and, secondly, we must ensure a proper organisation which shall produce the fighting machine which will preserve us from war or ensure success by giving us the means of striking first and striking hardest. The second part Admiral Mark Kerr puts into concrete form by outlining a scheme under which he considers that the desired object would be attained.

Mastery of the Air

The Admiral states that the best plan is to have a Minister for War, with the three Services equally represented under his orders. This is a policy which we have advocated for a very long time. He foresees, however, that the opposition to such a great innovation may be too strong, and by way of an alternative outlines a scheme, quoted at the end of these comments, the broad principle of which is that the Air Ministry shall design, train, build, contract and supply all the finished articles to the Navy and Army, and that the Navy and Army will ask for what they want, and as soon as it is supplied it becomes part of the Service to which it has been affiliated. In its broad outline this scheme follows closely on the lines that have been suggested in

these columns for many years past, and we welcome the confirmation of our views by so well-known an authority as Admiral Kerr. We have never attempted to elaborate detail to the extent that the Admiral does, but in the general principles involved we see our own views reflected. We are not, however, quite so pessimistic as the gallant Admiral with regard to the formation of a Ministry of Defence, and we imagine, and we hope, that, sooner or later, our Fighting Services will be co-ordinated in some such manner. It is only a natural corollary to the successful one-command experience in the late War.

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Circuit of Britain

The list of entries for the Circuit of Britain for the King's Cup, which is to start from Waddon on September 8, is published under the Official Notices of the Royal Aero Club in this issue of FLIGHT. No less than twenty-one machines have been entered, and there is reason to hope that they may all be starters. Many prominent men figure in the list of entrants, and a number of famous pilots are down to fly in the race. As the competing machines will be seen by tens of thousands, the race cannot fail to increase aeronautical interest throughout the country, and focus public attention on practical flying. This is all to the good at the present time, and we sincerely trust that His Majesty may see his way to honour Waddon with his presence on the day of the finish of the race for his Cup, as this would undoubtedly put the finishing touch to the encouragement already so opportunely extended, and thereby mark another red-letter day in the history of Aviation.

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The "Daily Mail" Glider Competition

The date for this year's gliding competition for the *Daily Mail* Prize of £1,000 has now been fixed. The competition will open on October 16, and the last day upon which competitors may try for the Prize is October 21. In a way, it is a pity that such short notice has been given, as it will scarcely be possible for potential British entrants to get machines built in time for the competition. On the other hand, the very generous prize offered may be instrumental in bringing to this country some of the German and French machines which have just done so well in competitions in those countries, and this could scarcely fail to add greatly by actual demonstrations to the interest already being taken in the subject of gliding and soaring.

It might also be pointed out that, in the French competition at any rate, some of the most successful machines were little more than small sporting aeroplanes, the engines of which had been removed. Probably certain structural parts had been lightened, but no great alterations were, we believe, carried out. Thus, in order to be in a position to make some sort of fight for the Prize with British machines, it might be possible to enter one or two machines of this type, such as the Avro Baby, the Austin Whippet and the Bristol monoplane, with the wings placed low on the body. If the Bristol Babe is still in existence, this also might be called into use.

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"FLIGHT" Designing Competition

In order to encourage, even if but in a small way, the production of specially designed gliders, the proprietors of FLIGHT have decided to offer a Prize for the best design submitted before November 30, 1922. The competition is open to all, and we hope that many useful ideas, as well as at least one really practical design enabling amateurs or professionals to build, may result. The science of gliding is still very young, and no one can at present venture to forecast what a good glider design should be. There is ample room for originality, even while remaining within the rigid limits of present-day knowledge, and the author of the winning design will have to convince the Judges, by facts and figures, that his design is thoroughly practical, and worthy to be constructed in fair quantities.

We hope that gliding clubs may be formed in different centres of the country, and cordially invite any such to collaborate and send in designs for the competition.

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ADMIRAL MARK KERR'S IDEAL AIR ORGANISATION

THE scheme suggested by Admiral Mark Kerr, to which reference is made above, is as follows :—

The Air Ministry shall consist of :—

Secretary of State ; Air Secretary.

Air Council, consisting of : War C.O.S., with Deputy C.O.S., R.N.A.S., and Deputy C.O.S., R.F.C. ; Navy Member ; Army Member ; Finance Member ; Personnel Member ; Experimental Member ; Training Member ; Civil C.O.S., with Deputy C.O.S. for Lighter-than-Air and Deputy C.O.S. for Heavier-than-Air.

1. There shall be an Air Member on the Board of Admiralty and one on the Army Council.

2. All experimenting work, training, building and contracting shall be done by the Air Council, Ministry and Air Force.

3. All the personnel will be entered and trained by the Royal Air Force under the direction of the Air Council. There will be both Naval and Military Air Classes of Instruction, in which the instructors are taken from the Air Service for which his class is being trained. The first term of instruction shall consist of general knowledge classes, and at the end of it pupils will be divided into the Naval and Military classes. Pupils will have the right of selection, but it will not be guaranteed that they shall join the branch that they select, as regard will always be paid to the qualifications and temperament of the individual in appointing him to any particular branch of the Service. If, in the course of training, a pupil be found to be more suitable for some other branch than that which he has been working for, he will be changed to that line for which he is most suited.

4. The Navy and Army will indent on the Air Ministry for their requirements in personnel and material for the Royal Naval Air Service and Royal Flying Corps respectively. When such supplies have taken place, they will become part of the Service, R.N.A.S. or R.F.C., and be under the complete control of the Admiralty or War Office, as the case may be.

5. Records of the officers and men of the R.N.A.S. and R.F.C. are to be rendered to the Air Ministry, and all information as to performance of machines, etc., by the Admiralty and War Office. The Air Ministry will reciprocate in these matters with regard to the officers from the R.N.A.S. and R.F.C., who are serving under the orders of the Air Ministry.

6. The personnel of the Air Ministry and Royal Air Force shall be drawn from the R.N.A.S. and R.F.C.

7. In the case of disagreement on any subject of policy or other cause which the Secretaries of State and First Lord of Admiralty cannot agree on, the matter shall be referred to the Cabinet.

8. The Air Ministry's Estimates shall only be made out for the personnel and departments and the administration for which it is responsible, and which is actually under its orders. The personnel of the R.N.A.S. and the building of all aircraft hangars, etc., which the Air Ministry orders or builds for the Navy or Army shall be charged to the Naval and Military Estimates, as the case may be.

9. The Air Ministry shall have its own Medical Department, especially trained for the Air Services, and they shall provide specialists for aerodromes and squadrons as necessary, as well as for the Air Hospitals.

"FLIGHT" DESIGNING COMPETITION

Prizes Offered for Designs for Motorless 'Plane

IN view of the very great interest which is now being taken all over the world in gliding and soaring, the proprietors of "FLIGHT" have decided to offer a prize for the best design for a motorless 'plane suitable for gliding and soaring. From the number of letters that have reached us during the last few months it is quite evident that, although but little has been done in this country towards taking up this promising sport, interest is far from lacking, and that the absence of practical results is chiefly to be attributed to the fact that good designs are not available. Many amateurs have shown themselves anxious to construct gliders, but have been prevented from doing so by lack of a suitable design to which to build. It is not within the capacity of every enthusiast to get out a suitable design, although he may have the necessary skill with tools to build such a craft if reliable drawings and designs are available.

The conditions of the "FLIGHT" Designing Competition are set out below, and the publication of suitable designs for engineless 'planes should serve to encourage the sport of gliding.

I. Conditions

(*a*) The "FLIGHT" Designing Competition is open to all, irrespective of nationality, and includes plans, drawings and calculations for motorless aircraft, suitable for gliding and soaring.

(*b*) Designs submitted will be judged by two well-known designers and constructors of aircraft, in conjunction with the Editor of "FLIGHT," and the decision of the Judges will be final.

(*c*) The winning drawings become the property of "FLIGHT," and the Editor reserves the right to publish any or all of the designs submitted, whether prize winners or not.

(*d*) Two Prizes will be awarded, one of £25 for the design which, in the opinion of the Judges, shows greatest merit, and a Consolation Prize of £10 for the design which is considered: (i) to incorporate useful features, but which is not considered best as a complete design; (ii) promising design along original lines, but which is too much of an experiment to be standardised without actual tests.

(*e*) The Editor reserves the right to divide the Prizes if, in the opinion of the Judges, more designs than one are of equal merit, and also to withhold the award of one or both Prizes if the Judges should consider that no design is worthy of an award.

(*f*) Each sheet of drawings, descriptive matter, calculations, etc., must be marked with a *nom de plume*, and a sealed envelope, containing the name and address of the competitor, is to be enclosed with the drawings, only the *nom de plume* chosen being written on the outside of the envelope. In this manner designs will be judged entirely on their merits both the Editor and the other Judges being ignorant of the identity of the competitors.

(*g*) All communications in connection with the competition should be addressed to the Editor, and marked "Designing Competition."

(*h*) The Competition closes at midday on Thursday, November 30, 1922, by which time all designs must be in the possession of the Editor of "FLIGHT." No designs sent in after that date will be considered.

(*i*) The Editor reserves the right to alter details of the regulations, should this be deemed necessary, so long as the fundamental basis of the competition is not changed.

II. Particulars Required

In the following are set out some of the conditions to note, and particulars which competitors are required to embody in their designs, although the sub-heads should not be regarded as covering the complete list which can be submitted:—

(*a*) Designs will be judged not only on the merits of the aerodynamic and structural design, but also on the completeness or otherwise of the data submitted, and on the facility with which the machine can be built from the information supplied. Cheapness of construction should be taken into consideration, and facility of erecting and dismantling are points of importance as the machines will frequently have to be transported from a valley to the top of a hill.

(*b*) The machines may be monoplanes, biplanes, or multiplanes, with enclosed *fuselages* or with open tail booms.

(*c*) The undercarriage (if any) may be of the wheel type or of the skid type, or a combination of the two.

(*d*) Aerodynamical estimates, based upon recognised model or full-size data, must accompany the designs. This refers to such component parts as wing sections, *fuselages*, struts, bracing, undercarriages, tail planes, etc.

(*e*) A curve of gliding angles (estimated) must be drawn, covering a reasonable range of speeds, and the figures of total resistance and weight upon which this curve is based are to accompany the design.

(*f*) Stress calculations must be carried out and submitted for all important members such as wing spars, struts, wires or cables, *fuselage* or tail outrigger parts, tail planes, rudders, and elevators. No factors of safety are specified, as the adequacy or otherwise of these will be taken into account in judging the designs. The strength of material assumed in calculating the factors of safety should be stated.

(*g*) General arrangement drawings, to scale, must accompany the design, and should include side elevation, plan and front elevation, with all main dimensions and areas marked on the drawings.

(*h*) Assembly drawings of such main components as wings, *ailerons*, *fuselage* or tail outrigger, tail planes (fin, rudder, tail plane and elevators), and undercarriage must also be submitted.

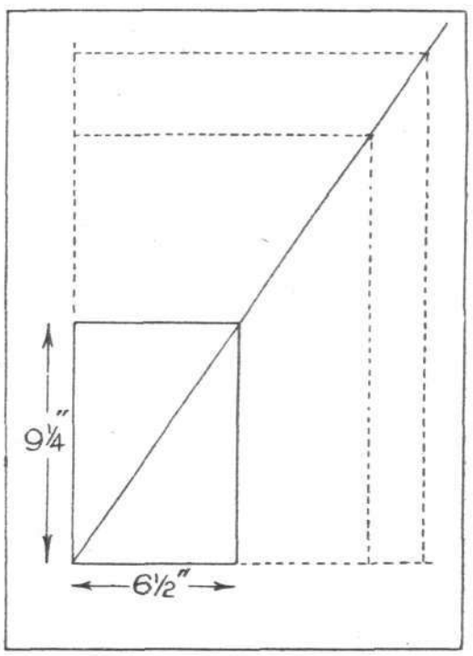


Diagram showing method of determining proportions of drawings for reproduction.

(*i*) Such detail drawings as are necessary should be sent in. Where a fitting of the same shape is used in several places, but differs in dimensions, it is advisable to mark on one drawing the required dimensions as *a*, *b*, *c*, *d*, etc. A table can then be prepared, giving the dimensions of *a*, *b*, *c*, *d*, etc., according to where the fitting is to be used. Spar sections, strut sections, etc., should be dimensioned sufficiently to enable them to be built to correct size and shape.

(*j*) A specification of materials must accompany the designs, and in the case of all drawings of components, parts, fittings, etc., the materials to be used should be marked on the drawing.

(*k*) A table of item weights must be prepared, and indication given of the specific gravity, or weight per cubic inch or cubic foot upon which the weight estimates are based. The calculated centre of gravity (with pilot on board) should be shown on the general arrangement drawings.

III. Preparation of Drawings, etc.

(*a*) All drawings must be done in Indian ink on white paper or tracing cloth, as should also all lettering, figures, etc., on the drawings. Large drawings should be rolled and not folded. (The creases detract from the drawings in reproduction.)

(*b*) General arrangement drawings, sets of details, etc.,

on large sheets, must be drawn on sheets of such proportions, or so arranged together, as will reduce to the size of a page in "FLIGHT" (6½ ins. by 9¼ ins.).

(For the assistance of those not accustomed to arrange drawings for reproduction to a certain size, the accompanying diagram, showing the "diagonal" method, may be consulted. First set out a rectangle, 6½ ins. by 9¼ ins., and draw the diagonal. So long as the diagonal of the large sheet is at the same angle as that of the small rectangle, the sheet will reduce to the required proportions. In this connection it should also be remembered that lettering, figures, etc., will be reduced in the same proportion, and this should be kept in mind, as otherwise if the lettering is too small it becomes illegible in the reproduction.)

Although prolonged glides, or, as they are usually termed, soaring flights, are mainly a matter of personal skill on the part of the pilot, it is obvious that the more efficient the machine, the more readily it responds to its controls, and the slower its rate of descent, the better the results that can be obtained. The fundamental requirement before construction of a glider can be started is therefore a good design. Now at the present moment it is not at all clear what constitutes a good design. There is still a very wide scope for originality, although we would point out at the outset that the machines which have accomplished most are all of fairly orthodox design. Freaks, of which there have been not a few, have never hitherto achieved much success in practical tests. It was so in Germany last year; it has been so again this year, and in the French Competition at Clermont-Ferrand the machine which did best was a Farman aeroplane which had had its engine removed.

However, even within the limits of orthodox design, if this expression is permisible in relation to engineless aircraft, there is ample scope for individuality. Monoplane, biplane or triplane each has points in its favour, and each has drawbacks. In the choice of wing sections also there is ample room for speculation. Details of construction, to give the lightest possible structure in conjunction with adequate factors of safety, offer almost unlimited scope. Thus a very great number of considerations, often conflicting, enter into the problem, and we think competitors will find much of interest in trying to decide upon the best compromise, and in the planning of the designs, quite apart from the possibility of winning a prize. Creative work is always interesting, and we hope that the competition may, in addition to producing a number of good glider designs, be the means of getting many interested in the subject who would not otherwise have troubled to look into the matter. The competition is open to all, and there are no restrictions, professional designers standing no better chance than does the amateur who has sufficient aerodynamic and engineering knowledge to make the necessary calculations and estimates. If gliding clubs are formed, there is nothing to prevent several members of a club from collaborating in the preparation of designs. The competition is an absolutely open one, for which anyone may enter. Every design, as is shown in the regulations, will be judged solely on its merits, without regard to the identity of the author.

THE WORLD FLIGHT ABANDONED

HAVING reached Lukhidia Char (near Chittagong in the Bay of Bengal), where a forced landing was made and the machine wrecked, Capt. Macmillan and Capt. Malins—who, accompanied by Maj. Blake, left Croydon on May 24 last for a flight round the world—were obliged to abandon the flight after thrilling and by no means cheerful experiences.

After effecting certain repairs to the floats of the Fairey seaplane, they left Calcutta on Saturday, August 19, with the intention of reaching Akyab. Weather conditions were extremely bad, heavy monsoons, storms and torrential rain prevailing, but by flying low they managed to reach the coast, at the mouth of the Bangarah river, on the direct compass line for Akyab. They had barely sufficient petrol to reach the latter place, and, as weather conditions ahead were against them, they decided to make for Chittagong, further north, and so keep in touch with the islands.

Shortly after, an air lock in the petrol system necessitated a landing which was successfully accomplished, and, casting the sea anchor, they proceeded to set matters aright, but not without the heavy seas breaking over them and smashing a rib of the elevator. They got going again eventually, however, and taxied back in the direction of Lukhidia Char, near which place they grounded, in somewhat calmer waters. Here they remained three days, during which time they went over the machine, executing various repairs under most trying circumstances and stormy weather conditions. In the meanwhile, the scared natives looked on from a safe distance, and only one or two ventured close up to exchange milk for some cigars.

On the fourth morning the gale had blown itself out, and it was decided to make an attempt to reach Chittagong, and at 12.10 p.m. they took off as a good Fairey should, and proceeded, hungry but hopeful. After going for about 15 mins., however, water in the petrol forced them down on the sea once again, entirely out of sight of land, and with the distant smoke of a steamer gradually passing out of sight. An attempt being made to clear the petrol system, they next turned their attention to the floats, and found the starboard float in a very sorry condition, but decided to try and taxi right away to Chittagong rather than spend time in making repairs. They accordingly started up the engine, and proceeded slowly and spluttering for about an hour, when the engine suddenly picked up. Seeing the smoke of another steamer in the distance, they tried to take off to get in touch with it, but the float was too water-logged, and they had to taxi once more, in a strong southerly current, until the petrol gave out.

It was here their real troubles commenced, for with the machine gradually sinking and strong seas sweeping over them, they had to cling on as best they could, have the last drink of water, and wait for someone to come and pick them up. During the night, a heavy sea turned the machine turtle, leaving them sitting on the bottom of the float as a monsoon broke over them. Thus they drifted about in the varying currents, at one time sighting land not very far off, till the sun came up, and an extremely painful day commenced, a scorching sun and acute thirst causing them much suffering.

Night fell, and they were still drifting helplessly, and at dawn they saw the island of Sandwip about four miles off, but found themselves being carried away by the current. It was not until some hours later—after a native boat had come close up, and passed on ignoring their signals—that Lieut.-Commander Cumming of Chittagong, arrived on the scene in the river launch *Dorothea* and rescued them, and took them off to Chittagon hospital, where, it is reported, they are progressing favourably.

Major Blake hopes to leave for England with his companions in the course of the next fortnight.

Brack Papa Flies 208½ M.P.H.

IN an attempt to beat the world's speed record, held at present by Sadi Lecointe, Brack Papa the Italian pilot, succeeded in attaining a speed of 208·5 m.p.h. at Mirafiori Aerodrome on Saturday last. He was flying a 700 h.p. racing Fiat biplane, making two flights in each direction over the one kilom. course. His times for each kilom. were as follows:—1, 10·9 secs.; 2, 10·3 secs.; 3, 11·3 secs.; 4, 10·4 secs., or an average of 10·7 secs.

American Airship as Aeroplane Carrier

THE American War Department has placed an order with the Goodyear Co. for five non-rigid airships, and also for a semi-rigid airship, which will be the first of that type to be built in America. The new semi-rigid is to have a capacity of 750,000 cubic ft., and the ship will have the distinction of being the first to be designed specially for use as an aircraft carrier. No details of the arrangement are available, but it is stated that provision will be made for launching, as well as picking up, aeroplanes while in the air. The possibilities of using airships as aircraft carriers are considered by many experts to be very great, and it will be interesting to watch the results obtained with the new American airship.

Surveying New Guinea from the Air

A PARTY, headed by Capt. Frank Hurley, and including an ethnologist and a naturalist, has left Sydney by steamer for Port Moresby to explore New Guinea from the air.

A wealthy resident of Sydney, Mr. L. Hordern, has provided two seaplanes, one of which is already in New Guinea, while the other is being conveyed in the steamer with Capt Hurley.

It is proposed to leave Port Moresby towards the end of September for the Fly River, and to make a four months' air survey of the western portions of British New Guinea. The scientific section will navigate the Fly River in a ketch. The party has further plans, but they will depend upon the behaviour of the seaplanes.

FLIGHT

SCHNEIDER VICTOR'S WELCOME HOME

WHEN Mr. H. Scott-Paine and Capt. H. C. Biard, the heroes of the Schneider Cup Race, returned "home" to Southampton last Thursday, they were accorded a very hearty and well-deserved civic reception. As they stepped out of the London train at Southampton West, they were received by the Mayor of Southampton, who shook hands with each, and spoke a few brief words of welcome and congratulation. They were immediately surrounded by a cheering and enthusiastic crowd, which included many well-known Southampton personalities. Lieut.-Commander Mackenzie-Grieve, of cross-Atlantic fame, was also one of those to offer congratulations. Cheering and congratulations over, they were conveyed by car to Audit House, and in the Mayor's parlour Mr. Scott-Paine gave a most interesting account of the winning of the race.

In his opening remarks he referred to the fact that Great Britain was unrepresented in the race on the last two occasions, and pointed out that Italy only had to win the race this year to win it outright, and the event would have been closed, which, from an International standpoint, would have been very unfortunate. Last June the Supermarine decided to build a challenger, the work being carried out with the utmost secrecy. The Italians had been watching very closely the progress and shaping of events in the different countries, and had practically made up their minds they were going to have another "walk over" this year.

Both Italy and France, continued Mr. Scott-Paine, built machines for this race with the financial aid of their respective Governments, whilst "we did ours ourselves, you know."

He then referred to the sporting help they had received—how the General Steam Navigation Co. helped them to Naples, how Napiers' lent an engine without any charge, Shell's supplied the fuel, Wakefield's the oil, etc., etc.

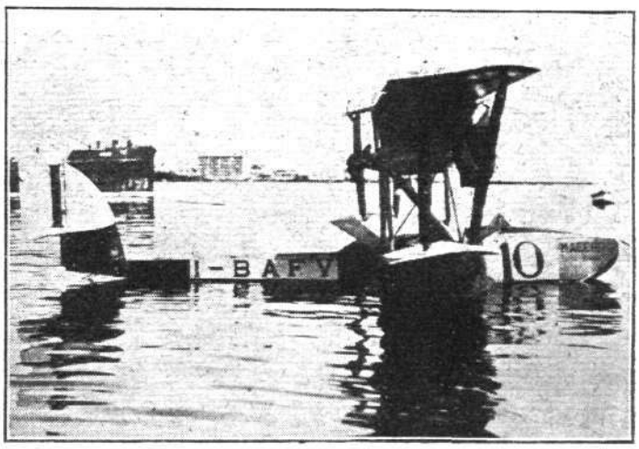
The arrangements for the race were perfect and absolutely fair. They gave the Italians notice of their intentions when they made test flights, and their trials were carefully watched and timed. Capt. Biard flew at a speed of about 140 m.p.h., and the Italians thought he was going "all out," with the result that the betting odds on their machine increased. During the six-hours' mooring-out test the fastest Italian machine capsized, and had to be righted by her crew. "This was contrary to regulations, and we could have disqualified her if we had liked to protest," said Mr. Scott-Paine. During the navigability test the same boat split her propeller and damaged other parts of the machine, and they could have disqualified her for this, but did not.

On the day of the race four machines started, three being Italian. All got away exactly to the second, all engines commenced working at once, and the lapping times on the various laps were absolutely exact. The Supermarine machine went first, and when the Italians compared Capt. Biard's first lap time with that of their machines they were a little bit downhearted. The Supermarine boat had never done its full speed on trials out there, and when turning Capt. Biard had made the turns very clumsily on purpose to deceive the Italians. The latter were so sure they were going to win that they were laying big odds against the British boat. Capt. Biard did his first lap at a very extraordinary speed—well over 160 m.p.h.—and held his time for six laps, during which time he overhauled two of the Italian machines, and passed them in a way which was perfectly amazing. On the 7th, 8th, 9th, 10th and 11th laps he nursed his engine a little bit, and the effect in the control station was amusing. They found his time was easing down, and the fastest of the Italian machines was creeping up, or, rather, reducing the lead. Capt. Biard was lapping just 20 seconds better time than the best of the Italians. They brought 24 and 25 seconds down to 20, and the British pilot held them at 20 on the 12th lap.

On the 13th lap Capt. Biard opened his engine all out, and to the consternation of the Italians, won by 2 minutes 3 seconds, in 1 hour 35 minutes. Before coming down he wisely covered two extra laps," just to make sure."

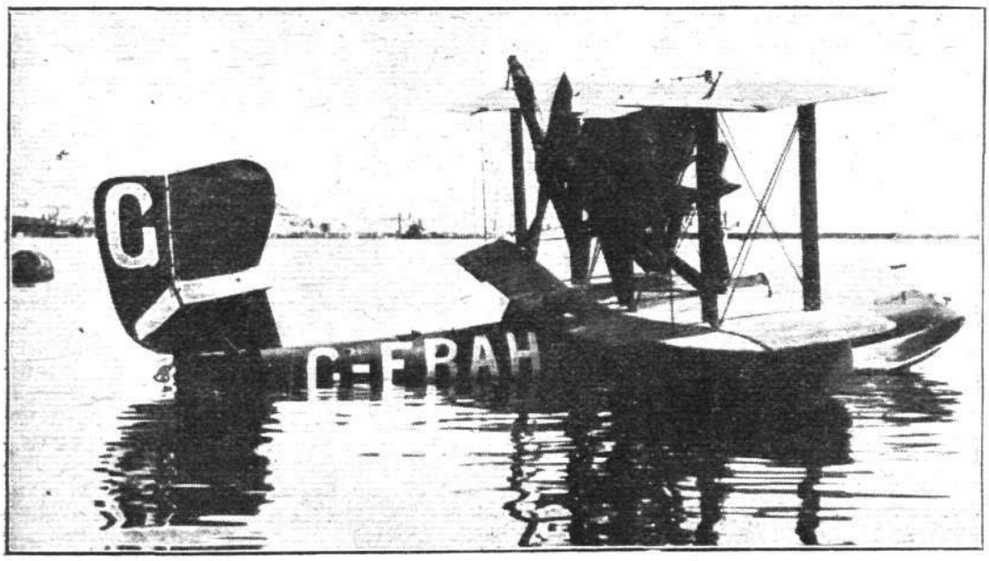
In conclusion Mr. Scott-Paine said, "It is the hardest race of any kind that has ever been carried out in the world, because of the small course." The longest leg was only a few miles, and the turning point was only very small indeed. Capt. Biard made 39 turns in 1½ hours at a speed of 160 m.p.h. He also referred to the extraordinarily difficult air conditions that prevailed.

In response to the Mayor, Capt. Biard said: "Mr. Scott-Paine has told you the whole history of the thing, and I don't think there remains much for me to say. Thank you, sir, for the reception we have had, and I should like to say how pleased we are to get back again."



THE COUPE SCHNEIDER: One of the Italian Macchi flying boats. A representative of this firm secured second place in the race.

After this the whole party, with the exception of the Mayor, adjourned to the Supermarine Works at Woolston, where remarkable scenes were witnessed during the enthusiastic welcome accorded by the staff and employés of the works. Further "speechifying" was indulged in, and Mr. Scott-Paine again told his story of the race, "For he's a jolly good fellow" being a natural conclusion to the day's proceedings.



The Coupe Schneider: The winning Supermarine, "Sea Lion II," Napier "Lion" engine, at rest on the sea off Naples.

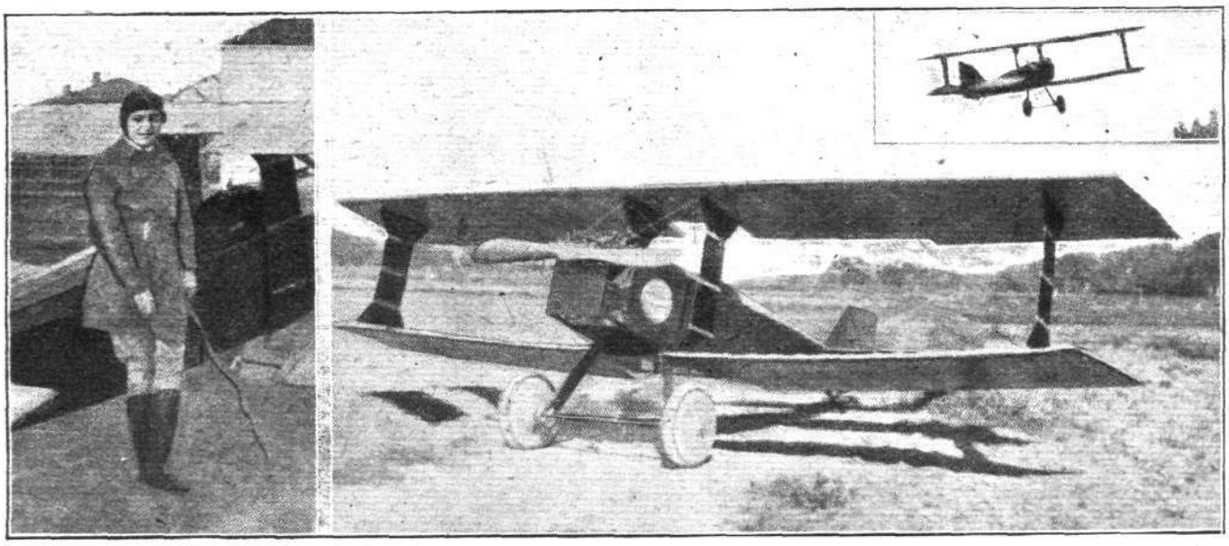
THE IRWIN "METEORPLANE"

THE Irwin Aircraft Co., of Sacramento, Cal., U.S.A., recently put on the market a small sporting biplane called the "Meteorplane" Model MT, which embodies several interesting features. We are indebted to our American contemporary *Aviation* for the following brief particulars of this little machine.

It is a single-seater tractor biplane, and was designed to meet the demand for a small lightweight aeroplane of conventional design that the average aero enthusiast could afford to have and operate. The "Meteorplane" has a quick get away (160 ft. run), good climb, is speedy, yet at the same time has a very low landing speed, insuring the greatest degree of safety. In landing, it comes to rest after a run of 110 ft. Consistent with these qualities, the design and construction the front—which is attached to the *fuselage* at three points, the apex at the top of the *fuselage*, and the middle at the lower *longerons*. The lower extremities of these members are slotted to receive the rubber sprung axle, which carries two 20 in. by 3 in. wheels.

The *empennage* is composed of a non-lifting horizontal stabiliser, to which are hinged divided elevators, and a triangular vertical fin, to which is hinged a rudder. The latter is of sufficient area to insure complete control when handling the machine on the ground. Conventional stick and rudder bar control is used.

A two-cylinder air-cooled engine of 15 h.p. is mounted in the nose, and drives a 4 ft. 11 in. tractor screw of 3 ft. pitch at 1,900 r.p.m.



THE IRWIN "METEORPLANE" (MODEL M.T.): An American sporting biplane of 15 h.p. On the left its constructor, J. F. Irwin, is shown standing beside the machine, giving an idea as to its size. Inset (right), the machine in flight.

embrace very light weight, yet the factor of safety at any point of the whole machine is more than five. The power loading is 26 lbs., while the wing loading is only a little over 3½ lbs./sq. ft.

The main planes are adjustable as regards their fore and aft position, provision being made for sliding them along the *fuselage*. This enables a perfect balance being obtained at all times. Hollow spruce spars are employed, and the rib webs and cap strips are of yellow pine and spruce respectively. The interplane struts, of which there are four, two being close up to the *fuselage*, are of I-form, and are built up of three-ply wood. Thus incidence wires are eliminated. Irwin No. 4 wing section is employed, the dynamical stability of which is almost the same as the Eiffel 32. *Ailerons* are fitted to the top plane only, and the lower plane, which is of shorter span than the top, is set at a dihedral angle

Of good streamline form, the *fuselage* is of box-girder construction, with ash *longerons* and four three-ply panels holding the body in shape The whole framework is wire braced from engine panel to stern post, and the covering is sheet metal at the nose and doped fabric elsewhere

The under-carriage is of novel, yet simple construction, and consists of two wide members forming an "A"—viewed from

The principal characteristics of the "Meteorplane" are as follows:—

Span (upper)	19 ft. 10 ins.
Span (lower)	19 ft. 1 in.
Chord	3 ft. 1 in.
Gap	2 ft. 10 ins. to 3 ft. 2¾ ins.
Overall length	13 ft. 9 ins.
Overall height	5 ft. 10½ ins.
Angle of incidence ..	2° 30′.
Dihedral (lower)	3°.
Area of main planes ..	105 sq. ft.
Area of tail plane	9 sq. ft.
Area of elevators	8 sq. ft.
Area of fin	1½ sq. ft.
Area of rudder	5 sq. ft.
Weight of machine empty	240 lbs.
Weight loaded	396 lbs.
Weight/h.p.	26 lbs.
Weight/sq. ft.	3¾ lbs.
Speed range	32–56 m.p.h.
Climb in 15 mins.	2,500 ft.
Gliding angle	1 in 7.
Range	1 hr. 45 mins.

A "Saintess" for Air Pilots.

A NEW statue of Our Lady of Loretto is to be taken by four cardinals to Rome in September to be blessed by the Pope, this particular statue of the Madonna being regarded as the protectress of men of the air. The Cardinal-Archbishop of Loretto, in honour of the occasion, will be one of the cardinals who will accompany the statue, in a motor-car, to Rome and back.

Severndroog Castle

UNDER the will of the late Mr. Probyn Godson, Severndroog Castle, Shooters Hill, becomes the apex of one of London's public parks. This fact is of interest to aviation, as Severndroog Castle is the highest point between London and Paris, being 450 ft. above the level of the sea, and during the Great War it was in the occupation of the R Division of Special Constabulary for six years, it being considered by the authorities the most valued and important observation post for the defence of London against attack by enemy aircraft.

Proposed Australia to New Zealand Flight

IT is reported that early next year—in February or March—an attempt is to be made to fly from Australia to New Zealand, a distance of between 1,500 and 1,600 miles. The pilot will be Capt. G. H. Keat, D.F.C., and Capt. Bruce Ross will act as navigator. The start will probably be made from Cape Howe, N.S.W., and Christchurch, N.Z., the finishing point.

FLIGHT

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

RACING COMMITTEE

A meeting of the Racing Committee was held on Thursday, August 24, 1922, when there were present :—Maj.-Gen. Sir W. S. Brancker, K.C.B., in the Chair; Lieut.-Col. W. A. Bristow; Lieut.-Col. M. O. Darby; Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S.; Mr. W. O. Manning; and H. E. Perrin, Secretary.

The King's Cup.—The arrangements were considered, and the Secretary reported his visit to the various Controls, and it was decided to have the official Controls as follows :—

Birmingham	..	(Castle Bromwich).
Newcastle	.. ..	(Town Moor).
Glasgow	.. ..	(Renfrew).
Manchester	.. ..	(Alexandra Park).
Bristol	.. ..	(Filton).

Capt. R. J. Goodman Crouch and Lieut.-Col. W. A. Bristow were appointed Handicappers.

It was decided to start the first machine from Croydon at 9 a.m. on Friday, September 8, the others following in accordance with their handicap times. The first start from Glasgow on Saturday, September 9, was also fixed for 9 a.m.

"Daily Mail" £1,000 Prize for Gliders.—The Secretary reported the interview which he and Col. Darby had with the *Daily Mail* in connection with their offer of a prize of £1,000 for a Gliding Competition, at which it was decided to hand over the Competition to the Royal Aero Club.

The following Committee was appointed to draw up the regulations and proceed with the arrangements :—

Lieut.-Col. M. O. Darby, Lieut.-Col. W. A. Bristow, C. R. Fairey, Maj. O. T. Gnosspelius, W. O. Manning, Lieut.-Col. A. Ogilvie, F. Handley Page, Capt. W. H. Sayers, Squad.-Ldr. M. Wright.

THE KING'S CUP
Circuit of Britain Air Race, September 8-9, 1922.
Entries :

Entrant.	Machine, Engine and Pilot.
Brig.-Gen. James G. Weir, C.M.G.	Boulton and Paul P.9, 90 h.p. R.A.F. 1A (C. T. Holmes).
Duke of Sutherland ..	D.H.9, 230 h.p. Siddeley Puma (Capt. A. F. Muir).
A. S. Butler	D.H.37, 275 h.p. Rolls-Royce Falcon (A. S. Butler).
Lt.-Col. F. K. McClean, A.F.C.	Sopwith Gnu, 110 h.p. Le Rhone (Fl.-Lt. W. H. Longton, D.F.C., A.F.C.).
Lt.-Col. J. E. Tennant, D.S.O., M.C.	Boulton and Paul P.9, 90 h.p. R.A.F. 1A (Lt.-Col. J. E. Tennant, D.S.O., M.C.).
Douglas Vickers, M.P., J.P.	Vickers Vulcan, 350 h.p. Rolls-Royce Eagle VIII (Capt. S. Cockerell, A.F.C.).
J. D. Siddeley, C.B.E. ..	Siskin, 325 h.p. Jaguar (F. T. Courtney).
F. P. Raynham	Martinsyde F6., 200 h.p. Wolseley Viper (F. P. Raynham).
Sir Samuel Instone ..	D.H.4A, 350 h.p. Rolls-Royce Eagle VIII (F. L. Barnard).
Lt.-Col. John Barrett-Lennard, C.B.E.	D.H.9A, 350 h.p. Rolls-Royce Eagle VIII (H. H. Perry).
Lt.-Col. M. O. Darby, O.B.E.	D.H.9, 230 h.p. Siddeley Puma (M. Maurice Piercey).
Sir G. Stanley White, Bart.	Bristol 10-seater Biplane, 400 h.p. Bristol Jupiter (Cyril Frank Uwins).
Sir Henry White-Smith, C.B.E.	Bristol Monoplane, 100 h.p. Bristol Lucifer (Rollo Amyatt de Haga Haig).
Lady Anne Savile ..	D.H.9C, 230 h.p. Siddeley Puma. (Flying Officer Leslie Hamilton).
Sir William Letts, K.B.E.	Avro Baby, 35 h.p. Green (B. Hinkler).
Henry Fildes, M.P. ..	Avro Baby, 35 h.p. Green (Squad-Ldr. H. Payn),
A. V. Roe	Avro Viper, 200 h.p. Wolseley Viper (Capt. F. C. Broome).
John Lord	Avro Lucifer, 100 h.p. Lucifer (Major C. R. Carr).
Capt. G. de Havilland ..	D.H.9B, 230 h.p. Siddeley Puma (A. J. Cobham).
H. Scott-Paine	Sea Lion II, 450 h.p. Napier Lion (H. C. Biard).
Major J. C. Savage ..	S.E. 5A, 200 h.p. Wolseley Viper (C. C. T. Turner).

Controls and Officials

CROYDON (Waddon)

Officials.—Maj.-Gen. Sir W. S. Brancker, K.C.B.; Lieut.-Col. M. O. Darby; Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S.; Col. F. Lindsay Lloyd, C.M.G., C.B.E.; Lieut.-Col. F. K. McClean, A.F.C.; Lieut.-Col. J. T. C. Moore-Brabazon, M.C., M.P.

BIRMINGHAM (Castle Bromwich)

Officials.—Mr. Gilbert Dennison (Aerodrome Official); Capt. D. G. Murray, Capt. F. K. Walker (Royal Aero Club Officials).

NEWCASTLE (Town Moor)

Officials.—Mr. A. E. George (Aerodrome Official); Mr. W. O. Manning (Royal Aero Club Official).

GLASGOW (Renfrew)

Officials.—Mr. J. Allison, jun. (Aerodrome Official); Lieut.-Col. W. A. Bristow, Major E. Moyes (Royal Aero Club Officials).

MANCHESTER (Alexandra Park)

Officials.—Mr. J. Lord (Aerodrome Official); Com. F. L. M. Boothby, R.N., Capt. J. C. Brooke (Royal Aero Club Officials).

BRISTOL (Filton)

Officials.—Mr. H. J. Thomas (Aerodrome Official); Mr. A. J. A. W. Barr, Flight Lieut. L. H. Cockey, Capt. F. R. Walker (Royal Aero Club Officials).

Handicappers.—Lieut.-Col. W. A. Bristow; Capt. R. J. Goodman Crouch.

Secretary.—Harold E. Perrin. *Assistant Secretary.*—B. Stevenson.

GLIDING COMPETITION COMMITTEE

A meeting of the Gliding Competition Committee was held on Monday, August 28, 1922, when there were present : Lieut.-Col. M. O. Darby in the Chair, Lieut.-Col. W. A. Bristow, Major O. T. Gnosspelius, Mr. W. O. Manning, Mr. F. Handley Page, Capt. W. H. Sayers, Squad.-Ldr. M. Wright, and H. E. Perrin, Secretary.

The Supplementary Regulations for the Gliding Competition for the prize of £1,000 offered by the *Daily Mail* were drawn up as follows :—

The prize of £1,000 offered by the proprietors of the *Daily Mail* will be awarded to the competitor who remains the longest time in the air, providing such flight occupies not less than thirty minutes, under the following conditions :—

Supplementary Regulations

Date.—The competition will begin on Monday, October 16, 1922, and close on Saturday, October 21, 1922.

All flights must be commenced between sunrise and sunset.

Organisation.—The competition will be conducted by the Royal Aero Club.

Place of Contest.—The locality has not yet been definitely decided upon, and will be announced shortly.

Competitors.—The competition is open to persons of any nationality.

The competition is open to any heavier-than-air machine not provided with any motive power except that produced

by the personal exertions of the occupants during flight and which is not supported either wholly or in part by any gas which is lighter than air.

Timing.—The timing of flights will be taken from the moment at which free flight commences until first contact with the earth. The machine must have no connection with the earth during flight.

Alighting.—The alighting must take place within an area which will consist of a circle of a radius of approximately 800 yards measured from the official point of departure.

Entries.—Entries must be made to the Royal Aero Club, 3, Clifford Street, London, W. 1, not later than 5 p.m. on Saturday, October 7, 1922. There is no entry fee.

The Royal Aero Club, in the interests of safety, reserves to itself the right to refuse any entry and/or to prohibit the flight in the competition of any competitor if it considers the flight would be dangerous.

Accommodation.—Information as to accommodation for the competing machines will be issued later.

General Conditions.

1. A competitor, by entering, thereby agrees that he is bound by the Regulations herein contained or to be hereafter issued in connection with this competition.

2. The interpretation of these Regulations or of any hereafter issued shall rest entirely with the Royal Aero Club.

3. The competitor shall be solely responsible to the officials for the due observance of these Regulations, and shall be the person with whom the officials will deal in respect thereof, or of any other question arising out of this competition.

4. A competitor, by entering, waives any right of action against the Royal Aero Club or the proprietors of the *Daily Mail* for any damages sustained by him in consequence of any act or omission on the part of the officials of the Royal Aero Club or their representatives or servants or any fellow competitor.

5. The machine shall at all times be at the risk in all respects of the competitor, who shall be deemed by entry to agree to waive all claim for injury either to himself, or his passenger, or his machine, or his employés or workmen, and to assume all liability for damage to third parties or their property and to indemnify the Royal Aero Club and the proprietors of the *Daily Mail* in respect thereof.

6. The Committee of the Royal Aero Club reserves to itself the right to add to, amend, or omit any of these rules should it think fit.

Capt. W. H. Sayers, Squad.-Ldr. M. Wright and H. E. Perrin, who made a tour of the South of England to inspect sites for the competition, made a report, and it was decided to defer the selection until a later date.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.
H. E. PERRIN, Secretary.

Personals.

Married

GUY GEORGE HOUSSEMAYNE DU BOULAY, R.A.F., only son of Mr. and Mrs. Ralph Houssemayne Du Boulay, of East Grinstead, was married on August 23 at St. Mary's, East Grinstead, to RUBY VIOLET EMMELINE, youngest daughter of Mr. GODFREY KNOX, of Sally Park, Templeogue, co. Dublin.

HENRY MICHAEL MOODY, M.C., R.A.F., only surviving son of the Rev. Henry Moody, Vicar of Welshampton and Rural Dean of Ellesmere, and Mrs. Moody, was married on August 3, at St. Aubin's Church, Jersey, to AUSTIN ROBINA (BOBBIE), youngest daughter of Mr. and Mrs. C. A. HORN, of Beaumont, Jersey, and Adelaide, South Australia.

Flight-Lieut. GERARD STEPHEN ODDIE, D.F.C., was married on August 3, at St. Peter's, Falcon Avenue, Edinburgh, to HELEN CHALMERS, only daughter of ALAN LOCKHART MENZIES, W.S., Larch Grove, Balerno, Midlothian.

To be Married

A marriage has been arranged, and will take place in the autumn, between DOROTHÉ, widow of Captain JACK BARNATO, R.A.F., and daughter of Mr. and Mrs. Joe Lewis, and LORD PLUNKET son of the late Lord Plunket and Lady Victoria Braithwaite, and nephew of the Marquess of Dufferin and Ava.

Killed

ROBERT BLAINE LUARD, R.A.F., who died on August 17, in India, as the result of an aeroplane accident, aged 24, was the second son of Maj. Luard, R.E.

Items

The will of the late Mr. DAVID WILLIAMSON STEWART PATERSON, sometime of Broomlands, Kirkcudbrightshire, later 2nd Lieut. R.F.C., has been proved at £8,250.

The will of the late Mr. ARTHUR CHARLES SPENCER, aircraft manufacturer, of 52, Highgate Hill, N.W., formerly of 6, West View, Highgate, N., has been proved at £21,196.

Capt. JUAN LEGUIA Y SWAYNE, Air Attaché to the Peruvian Legation, left London on August 17 for Berlin.

Lieut. WILLY COPPENS, Assistant to Military Attaché of the Belgian Embassy for Air Service duties, left London on August 17 for Brussels, on leave.

Lieut. G. F. C. FLORMAN, Military Attaché to the Swedish Legation for Air Service duties, returned to London on August 22 from Paris.

Capt. JUAN LEGUIA, son of the President of Peru, Air Attaché at the Peruvian Legation, and Senora G. de Leguia, left London on August 28 for Lima.

Major NOBILE CARLO M. GRAZIANI, Air Attaché to the Italian Embassy, left London on August 29 for Geneva.

NOTICES TO AIRMEN

Swinging of Compasses in Aircraft

1. Compasses in aircraft, owing to their delicate construction, are liable to be thrown out of truth by many different causes. A compass should, therefore, be swung whenever, for any reason, there may be a doubt as to its accuracy. In particular, the compass should be swung :—

(1) On change of position of any magnetic material in the vicinity of the compass, such as change of an engine, electrical or Wireless equipment, etc.

(2) On replacement of the compass in an aircraft by another.

(3) After the aircraft has been standing in one position for four weeks or more (*e.g.*, after undergoing overhaul or large repairs).

(4) At any time when the accuracy of the deviation table is open to doubt.

(5) In addition, after a bad landing, the cap and pivot should be tested.

2. Pilots should keep a constant watch on the behaviour of, and take every opportunity to test, their compass whilst flying over a long stretch of road or railway, the magnetic bearing of which has been ascertained beforehand.

It is only by the constant use of the compass during fine weather and when the ground is visible that pilots will obtain sufficient confidence in the reliability of their compass to enable them to be assisted by it under adverse weather conditions. (No. 92 of 1922.)

Germany's Civil Aircraft

IN our issue of May 18, 1922, we published the regulations drawn up by the "Committee of Guarantees" (which replaces the Inter-Allied Aircraft Commission) in respect to the manufacture of German aircraft. The following is a list of German "Civil" aircraft complying with these regulations: 1, Dornier "Dragon-Fly" flying boat (60 h.p. Siemens); 2, Junkers J15 Limousine (60 h.p.); 3, Junkers J16 Limousine (60 h.p.); 4, L. F. G. V20A mono-seaplane (230 h.p.); 5, L.F.G. V13 bi-seaplane (220 h.p.); 6, L.F.G. V18 bi-seaplane (220 h.p.); 7, L.F.G. V8 bi-flying boat (120 h.p.); 8, Casparwerke P.F. 4 seaplane (220 h.p.); 9, Stübing sport biplane (25 h.p.); 10, Stübing single-seater mono (25 h.p.); 11, Entler Sport biplane (25 h.p.); 12, Hermann Venier (50 h.p.); 13, Max Schüler (50 h.p.); 14, Dornier C111 mono (230 h.p.); 14, Dornier C11 "Dolphin" mono-flying boat (230 h.p.); 16, Zeppelin twin-engined monoplane (4,120 h.p.); 17, Casparwerke seaplane (260 h.p.); 18, Albatross (230 h.p.); 19, Fokker Limousine mono. (160 h.p.); 20, Junkers Limousine (160 h.p.); 21, Sablatnig Limousine mono. (220 h.p.); 22, Sablatnig Limousine biplane (220 h.p.).

FLIGHT

GLIDING, SOARING AND AIR-SAILING

Those wishing to get in touch with others interested in matters relating to gliding and the construction of gliders are invited to write to the Editior of FLIGHT, *who will be pleased to publish such communications on this page, in order to bring together those who would like to co-operate, either in forming gliding clubs or in private collaboration.*

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AT the Rhön Gliding Competition the German pilot Herr Hentzen has beaten his own record of last week by flying for 3 hrs. 10 mins. The machine used by Hentzen is illustrated and described below.

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MIJNHEER FOKKER, the well-known Dutch-German designer, has established a world's record by flying for 13 mins. accompanied by a passenger. The flight took place at Rhön, and the machine used was, we believe, the glider exhibited on the Fokker stand at the last Paris Aero Show.

\- - -

IT has been pointed out in FLIGHT that gliding and soaring is nine-tenths piloting and one-tenth machine design. Thus at the French competition at Clermont-Ferrand the machines which did best were small sporting aeroplanes whose engines had been removed. Why should we not do the same in this country? The Avro Baby should make quite a good glider, as would probably also the Austin "Whippet," if their engines were taken out and the pilot's seat shifted farther forward to trim the machines properly.

\- - -

THE first definite entry for the *Daily Mail* prize has now been received by the Royal Aero Club. This is by Mr. Eric Cecil Gordon-England, who, it may be remembered, did a good deal of gliding in the early days of flying, first on the Jose Weiss bird-shaped monoplane gliders, and later on the extraordinary circular plane invented by Mr. Kitchen (of rudder fame), and elaborated and made practical by the late Mr. Cedric Lee and Mr. Tilghman-Richards. The machine which Gordon-England will fly has not yet been announced.

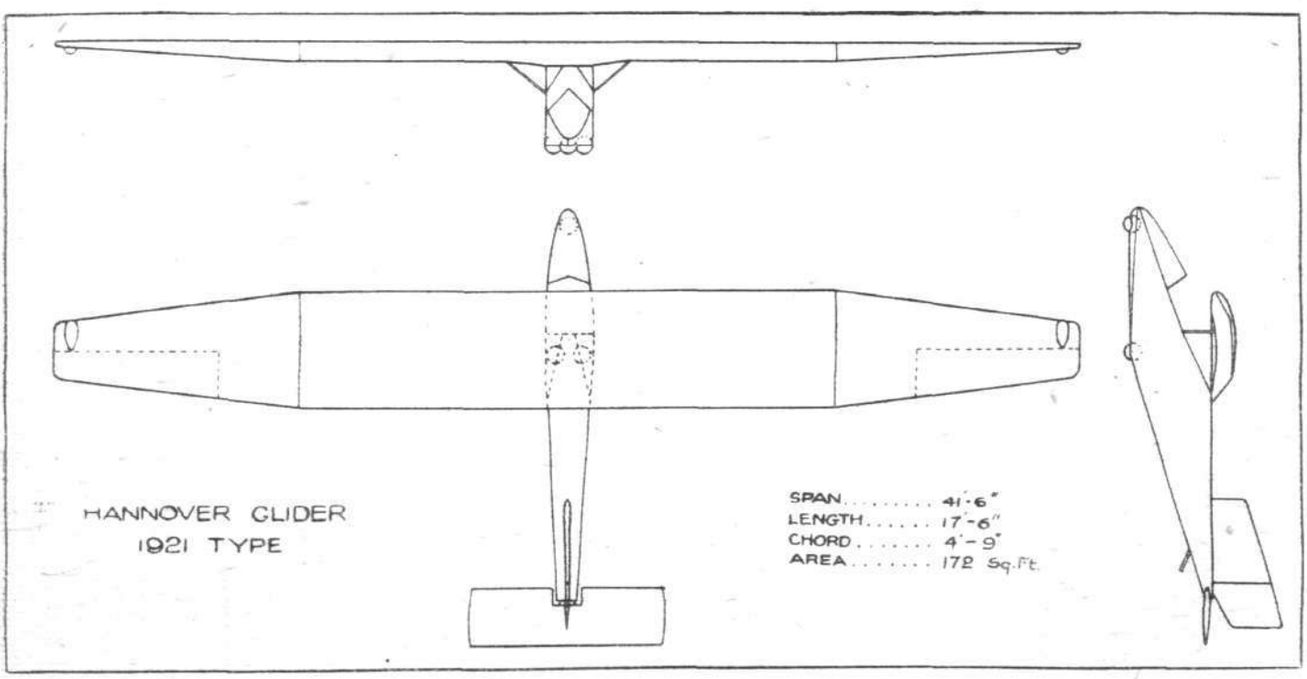
THE HANNOVER GLIDER

IT is no exaggeration to say that world-wide admiration has been aroused by the splendid flights made in the Rhön mountains during the recent German gliding competition. First the news came that Herr Martens had remained aloft for one hour on a Hannover glider. The next day it was announced that a college fellow of Martens, Herr Hentzen, had kept in the air for two hours. This performance, excellent as it was, did not long remain a world's record. A few days later Herr Hentzen increased the duration to 3 hours 10 minutes. How long this record will be allowed to stand there is no way of telling. It may be, however, that exceptionally favourable weather conditions helped materially in enabling this performance to be attained, and that it will be some time before the four-hours mark is reached. On the other hand, if a glider will remain aloft for three hours there is apparently no reason why it should not remain up for any length of time, provided the pilot is physically and mentally capable of sustaining the strain which must of necessity accompany the constant alertness required to take advantage of every gust of wind. However that may be, we congratulate Herr Hentzen on his remarkable feat, and trust to have the pleasure of seeing him in this country, either in connection with this year's *Daily Mail* competition, or at some future date. In the meantime, a few notes dealing with the glider on which the flights were made may not be without interest.

Generally speaking, the machine used by Martens and Hentzen in the Rhön competition this year is similar to last year's model. Certain modifications have been made, such as a reduction of the wing span, which is obviously somewhat large, and certain other minor alterations. The accompanying general arrangement drawings show last year's model, and it should be kept in mind that certain changes have taken place. However, even last year flights of long duration were made; for instance, one of 15 minutes 40 seconds, during which Herr Martens covered a distance of 4½ miles. It is understood that, in spite of the reduction in wing span, the wing area has been slightly increased. This would mean that the chord has been increased, and the aspect ratio reduced to more normal proportions.

Fundamentally, the Hannover glider consists of a cantilever monoplane wing of thick, high-lift section and large aspect ratio, mounted *en parasol* above a rectangular section *fuselage*. The wing is built in three sections, the central one of which measures approximately 22 ft. in span, with two end sections (tapered) attached to it. The wing section employed is one of the Göttingen sections, and the wing construction is somewhat unusual inasmuch as there is only one main wing spar.

This spar is of I-section, with the web built up of a series of lattices in order to save weight. The spar is located approximately one-third of the chord from the leading edge. As a single spar, although capable of resisting the bending moments, could not be expected to resist torsion, the wing



THE HANNOVER GLIDER, 1921 TYPE: It was on a similar machine that Hentzen remained in the air for 3 hours 10 minutes.

has been built up in the form of a tube of three-ply wood. This three-ply extends from the top of the spar, around the leading edge, and back over the lower surface as far as the lower edge of the spar. The tube thus formed, although being quite light, is very stiff against torsion, while at the same time having the advantage that it retains the shape of the leading edge of the wing better than could the usual rib construction. The main ribs are spaced about 18 ins. apart, but in the front portion false nose ribs are placed in the intervals between main ribs, thus supporting the three-ply at short intervals. The rear portion of the wing is covered with fabric in the usual way.

The *fuselage*, which is of rectangular section, has four *longerons*, and is a girder of the usual type, with struts and cross-members, and braced with wire. The wing is attached to the *fuselage* by three bolts, one through the main spar in the centre, which engages with a fitting on the top *longerons* (which meet at this point), and two through special reinforced ribs over the full-width edge of the body. In order to reduce the bending moments somewhat, single struts slope out some distance and are attached to the single spar.

A notable feature of the Hannover glider, which, by the way, was designed by Dr. Madelung, is the undercarriage, which consists of three footballs, two side by side under the deepest part of the *fuselage*, and one under the nose. Two similar, but smaller, air-filled spheres are housed in the wing tips. In practice this undercarriage is stated to have worked very well, and certainly it would be difficult to imagine anything lighter and simpler. The machine was built for some of the members of the flying club of the Hannover Technical High School by the Hannover Coach and Carriage Works.

THE FRENCH GLIDING COMPETITION

IN our issue of last week we announced briefly the results of the French gliding competition, which was held at Puy de Combegrasse, near Clermont-Ferrand, from August 6 to August 20. Unfortunately, the meeting was marred by a serious accident, which resulted in the death of one of the competitors, M. Fetu, who was flying a Bellanger-Denhaut biplane. Otherwise, in spite of the fact that the durations of the flights did not approach those made by German pilots, the meeting at Clermont-Ferrand must be counted a success much having been learned and the entries list being very large, no less than 50 machines having been entered. In the accompanying table are set out the main characteristics of all the fifty machines entered, while in the following notes reference is made to some of the more interesting of the gliders. For the table, as well as for the information upon which the notes are based, we are indebted to our excellent French contemporary *L'Aéronautique*, whose August issue contains a great deal of useful information relating to the various machines.

The Farman Machines.—Curiously enough, the machines which did best of all at Puy de Combegrasse were aeroplanes with the engines removed. Thus the Farman biplane glider was the Farman "Sport," with the Anzani engine taken out and the pilot's seat moved forward to trim the machine correctly. The same applies to the Farman "Moustique" which normally is a small monoplane, also with Anzani engine. It will, therefore, be gathered that both machines were somewhat heavy, having been designed for the stresses of a power-driven aeroplane. Nevertheless, Bossoutrot managed to make some very good flights on them, and on several occasions succeeded in gliding over his starting point. The fact that such heavy machines should have proved capable of good glides is encouraging, inasmuch as it indicates that with machines specially designed for gliding, with the weight kept down to a minimum and wind resistance reduced as much as possible, much better results may be hoped for. From the table of particulars it will be seen that the weight of the biplane is 275 lbs., for an area of 269 sq. ft., or practically 1 lb./sq. ft. empty. With the pilot in place the wing loading must have been approximately 1.6 lbs./sq. ft. In the case of the monoplane, the wing loading would work out at approximately 1.9 lbs./sq. ft. If such light loadings can be obtained with relatively heavy machines, it would appear probable that it might be possible to reduce, in a machine designed for gliding, the wing loading, with pilot on board, to about 1 lb./sq. ft., which should give very low landing speeds and also low rates of descent.

The Chardon Glider, flown by M. Chardon, the only Swiss representative at the meeting, is a very small and light biplane with open tail outrigger and no undercarriage. The pilot straddles a leather strap hanging down from the lower plane, and he gathers speed for starting by running down the slope of the hill. This procedure is rendered possible by the extremely light weight of the machine (about 30 lbs.). By energetic work, M. Chardon managed to bring his total duration of flights during the meeting up to 34 mins. 15 secs., thus gaining third prize, but no individual flight was of very long duration.

The Coupet Monoplane, flown by its designer M. Coupet, gained second prize for duration of individual flights, his longest flight lasting 4 mins. 50 secs. The Coupet monoplane is of the cantilever type, with wings tapering in chord and thickness from root to tip. The pilot is enclosed in the *fuselage*, his head projecting into a cut-out portion of the leading edge of the wing. The machine weighs but 88 lbs. empty, and has a wing area of 215 sq. ft., so that, with pilot on board, the wing loading is probably about 1 lb./sq. ft. As the head resistance is low this glider should be very efficient.

Table of Characteristics of Machines entered for French Gliding Competition.

No.	Entrant.	Type.	Under carriage.	Span.		Length.		Area.	Weight Empty.	Pilot.
				ft.	in.	ft.	in.	sq.ft.	lbs.	
1	M. Abbins..	M	WS	26	4	9	10	129	88	Abbins.
2	De Monge ..	M	S	36	1	25	0	270	176	Casale.
3	De Monge ..	M	S	36	1	25	0	270	176	Roques.
4	Nessler ..	B	WS	21	7	14	9	194	143	Nessler.
5	Dewoitine ..	M	WS	37	1	15	11	124	176	Barbot and Thoret.
6	Beuchet ..	M	S	29	6	16	5	162	110	Beuchet.
7	Derivaux ..	B	W	15	9	21	8	215	88	Derivaux.
8	Coupet ..	M	?	36	1	19	8	215	88	Coupet.
9	Gilbert ..	M	W	31	10	13	10	172	198	Gilbert.
10	Groux ..	M	WS	26	2	13	2	172	66	Groux.
11	Pimoule ..	O	—	—		—		108	66	Pimoule.
12	Massy ..	M	W	35	1	13	10	215	220	Massy.
13	Deshayes ..	M	W	52	6	17	1	236	220	Camard.
14	Chardon ..	B	—	18	5	11	1	161	34	Cuendet.
15	Chardon ..	M	—	36	1	15	9	194	88	Cuendet.
16	Chardon ..	B	—	18	5	11	6	161	28	Cuendet.
17	Thorouss ..	M	W	14	5	11	6	135	110	Thorouss.
18	Montagne ..	M	W	49	3	16	5	194	44	Montagne.
19	Farman ..	M	W	32	10	19	8	129	88	Bossoutrot.
20	Grandin ..	M	W	47	7	26	3	538	176	Grandin.
21	Rollé ..	M	S	29	6	13	2	118	51	Rolle.
22	Rousset ..	M	WS	29	6	13	2	151	88	Rousset.
23	Potez ..	B	W	26	3	29	3	226	242	Douchy.
24	Sablier ..	M	S	29	6	14	9	151	88	Sablier.
25	Detable ..	M	WS	16	5	16	5	247	264	Detable.
26	Peyret ..	M	S	21	8	16	1	156	104	Peyret.
27	Valette ..	M	—	23	0	7	3	86	55	Valette.
28	Bernasconi	M	W	23	0	13	2	108	66	Bernasconi.
29	Griffrath ..	M	S	34	9	17	6	172	84	X.
30	Lefort ..	T	S	27	7	14	9	270	264	Lefort.
31	Vial ..	M	WS	27	10	19	9	140	128	Vial.
32	Trofin ..	T	S	26	3	21	4	258	158	Trofin.
33	Breguet ..	M	S	—		—		215	176	X.
34	Julien ..	M	W	24	8	12	4	107	77	Julien.
35	Aubiet ..	B	W	18	0	15	9	118	88	Aubiet.
36	Caux ..	H	S	18	0	11	6	215	70	Caux.
37	Bellanger-Denhaut	B	W	32	10	26	3	204	198	Fetu.
38	Landes and Derouin	M	S	36	1	14	9	172	110	Landes.
39	Aeron. Eng. Soc.	M	WS	24	8	14	9	118	75	Allen.
40	L. Clement	T	W	18	1	11	6	135	165	Sardier.
41	Dewoitine ..	M	WS	37	1	15	11	124	176	Thoret.
42	Levasseur-Abrial	M	S	40	0	20	0	215	198	Pitot.
43	Dits-Moineau	M	S	39	5	18	1	215	110	Moineau.
44	Paulhan ..	B	WS	23	4	20	1	215	286	Paulhan.
45	Bonnet ..	B	S	28	8	17	5	194	143	Descamps.
46	Gaffner ..	B	WS	23	11	15	9	237	100	Gaffner.
47	Farman ..	B	W	29	6	23	0	269	275	Bossoutrot.
48	Verrimst-Maneyrol	M	W	32	10	13	2	248	330	Maneyrol.
49	Vercruysse	—	W	23	0	9	10	108	110	Vercruysse.
50	Thourel-Boisson	B	—	18	11	18	1	172	55	X.

M = Monoplane. B = Biplane. T = Triplane. O = Ornithopter. H = Helicopter. W = Wheels. S = Skids.

The Dewoitine Monoplane is one of the most carefully designed at the meeting. Of the cantilever type, its wings appear to have a section similar to some of the Göttingen sections, and not unlike the famous Joukowski aerofoil, with the maximum lower camber placed very far back, giving a thin trailing edge. The *fuselage* is built up of four light *longerons*, with struts and wire bracing, and the square section thus formed is turned into a streamline form by the addition of stringers. The nose of the *fuselage* is a hemisphere formed of several laminations of wood. A simple V-undercarriage with two wheels is fitted. The wings taper in chord and thickness, and are very pointed at the tips. The front portion of the upper surface is covered with three-ply, the rest of the wing being fabric covered. With a wing area of 124 sq. ft. and a weight, empty, of 176 lbs., the wing loading, in flight, is about 1.8 lbs./sq. ft. Piloted by Barbot, the Dewoitine No. 5 aroused the admiration of all spectators by hanging almost motionless in the air for about 20 secs., and for nearly 2 mins. the machine cruised about over its starting point. A second Dewoitine monoplane, piloted by Thoret, came to grief in landing, the pilot, fortunately, being unhurt.

The L. Clement Triplane was exhibited at the last Paris Aero Show, and had been shown previously as an aeroplane with 30 h.p. Anzani engine. It will, therefore, be known to readers of this journal, and it suffices to recall that its *fuselage* is built entirely of steel tube. The machine is somewhat heavy, and this fact may have been contributory to the accident which overtook it.

The Deshayes Monoplane is characterised by very careful stream-lining. Its *fuselage* is built up in the usual fashion, and the monoplane wing is attached, not *en parasol* as are the majority, but to the sides of the *fuselage*, about midway down. An arrangement is incorporated for altering the angle of incidence of the wing, the range being from 0 to 6 degrees. The strength of the wing was tested in a very simple manner, three men sitting on each wing, and no sign of permanent deflection being noticeable. The undercarriage consists of two main wheels, mounted on streamlined Vees (enclosed), and of a third wheel under the centre of the *fuselage*. This wheel is provided with a brake, so that, as the weight on this wheel is naturally considerable, the glider may be pulled up quickly, even on the slope of a hill. Unfortunately, the machine came to grief, a gust striking it shortly after the start and turning it on its nose. The pilot, M. Camard, was but slightly injured.

The de Monge Machines.—Two monoplanes of highly original design were entered by M. Louis de Monge. They are chiefly remarkable for the fact that their *nacelle* is formed by a swelling in the centre of the thick tapered monoplane wing. In front this swelling projects to form the pilot's cockpit, and at the rear it tapers off to a point, the cord of the wing being extended aft behind the trailing edge of the lifting portion of the wing. The tail is carried on two outriggers, each enclosed and forming a vertical panel. Under the wing, these panels are extended downwards to form the skids on which the machine alights. One of the de Monge machines was flown by Jean Casale, the famous Blériot-Spad pilot, but no very notable glides were accomplished.

Henry Potez had entered a biplane glider, which was really an aeroplane with its Anzani engine removed. The machine is entirely on orthodox lines. Piloted by Douchy it made several good flights from the Puy de Combegrasse, but the best flight of all, made, unfortunately, without the sanction of the judges, was made on August 20, when Douchy had his machine taken to the top of the Puy de Dome, and from this starting point made a flight lasting nine minutes. Under the conditions, however, this flight was not eligible for prize awards.

The Bellanger-Denhaut biplane was the only two-seater glider entered for the competition. The designer had made no great attempt at weight reduction, as he was of the opinion that the machine, even if somewhat heavy, would glide well in a high wind. Furthermore, the intention was later to fit a small motor in the machine. M. Fetu made a short flight on the machine, getting well away and gliding normally for a few seconds. Then, without any warning, the machine got into a spin and crashed, the pilot being so severely injured that he died later in a hospital in Clermont-Ferrand. This was the only serious accident which occurred at the meeting.

The Aeronautical Engineering Society of America entered a monoplane which made many excellent flights piloted by Mr. Allen. The machine is a monoplane with underslung body, somewhat after the fashion of the old Santos Dumont Demoiselle. The tail is carried on open tail outriggers, and these extend forward and downwards so as to form the support for the undercarriage and also for the pilot's seat. The machine is very simple in its construction, but probably offers considerable head resistance. During the earlier part of the meeting Allen was leading as regards total duration, but later he was passed by several of the French competitors.

THE ROYAL AIR FORCE

London Gazette, August 22, 1922

Group Capt. A. G. Board, C.M.G., D.S.O., to be Deputy Director of Personnel, Class 1, Air Ministry; August 24. (Vice Group Capt. C. L. N. Newall, C.M.G., C.B.E. A.M.)

General Duties Branch

H. Butlin is granted a short service commission as a Flying Officer with effect from, and with seniority of, August 11. Lieut. C. H. Goring, D.S.O., M.C., Royal Fusiliers, is granted a temporary commission as a Flying Officer, with seniority of April 1, 1918, on seconding for three years' duty with R.A.F.; June 7. Squadron Leader A. W. H. James, M.C., is placed on half-pay, Scale B; August 7. Squadron Leader G. J. Watney, O.B.E. (Paymaster Lieut.-Commander, R.N.), relinquishes his temp. commission on return to Naval Duty; February 13. Observer Officer D. A. Cox is placed on retired list on account of ill-health contracted on active service; August 23. The short service commission of Pilot Officer R. Fisher is terminated on account of ill-health; August 23.

Stores Branch

The following Flying Officers are transferred to Stores Branch from General Duties Branch; July 15:—A. G. Knight, M.B.E., A. E. F. McCreary. Flying Officer W. Rollinson is granted short service commission for Accountant duties, retaining his present substantive rank; June 15. His seniority will be promulgated at a later date. Capt. and Paymaster L. J. Lightfoot, O.B.E., R.A.P.C., is granted temporary commission for Accountant duties as Flight-Lieut., with seniority of April 1, 1918, and to be acting Wing Commander, on seconding for three years' duty with R.A.F.; August 14.

Medical Service

J. F. Carruthers, M.D., is granted a temporary commission as a Squadron-Leader, with effect from, and with seniority of, July 21.

Memoranda

Capt. F. X. Russell, late Royal Munster Fusiliers, is granted permission to retain rank of Major, R.A.F., on retirement from the Army. The permission granted to Lieut. A. Cox to retain his rank is withdrawn on his joining the Territorial Army.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the R.A.F. are notified:—

Wing Commanders: T. O. Lyons, O.B.E., from R.A.F. Depot (Inland Area) to Half-Pay List. 9.9.22. D. A. Oliver, D.S.O., O.B.E., from R.A.F. Base, Leuchars (Coastal Area) to Half-Pay List. 1.9.22. Actg. Group Capt. R. D. S. Stoney, C.B.E., from Central Pay Office, Woking (Inland Area) to Headquarters (Coastal Area) Supernumerary). 14.7.22.

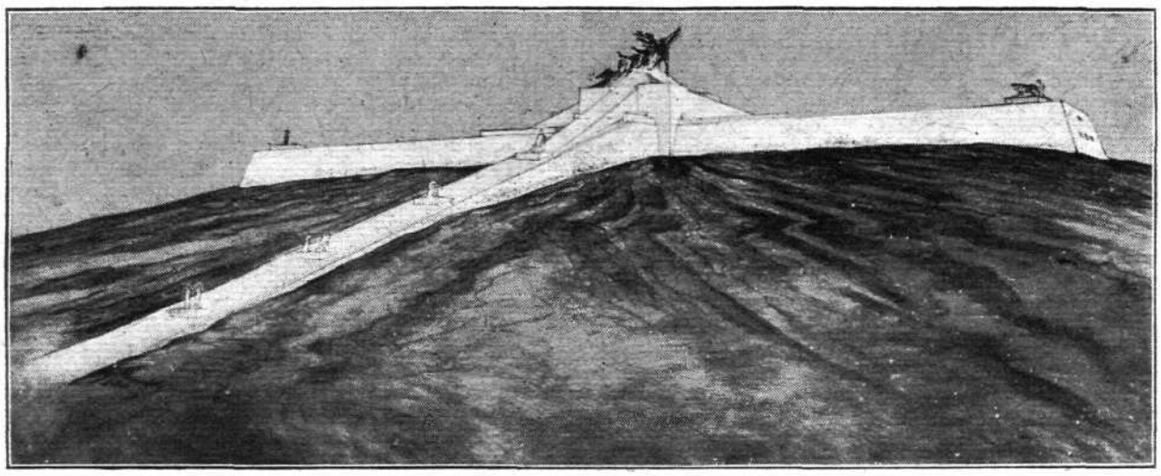
Squadron Leaders: Actg. Group Capt. H. C. Ellis, C.B.E., from R.A.F. Depot (Inland Area) to Palestine Wing Headquarters (Middle East) (Supernumerary). 11.8.22. R. E. Bell, M.B., from R.A.F. Depot (Inland Area) to Headquarters, R.A.F. (Iraq). 10.8.22. J. W. Cordingley, O.B.E., from Air Ministry (D. of P.) to command Record Office (Inland Area). 1.10.22. W. G. W. Prall, from Inspector of Recruiting (Coastal Area) to Air Ministry (D. of P.). 1.10.22. W. Sowrey, A.F.C. The previous notification wherein this Officer was posted from R.A.F. Depot (Inland Area) to No. 207 Squadron (Inland Area) is hereby cancelled. A. W. Tedder. The previous notification concerning this officer which appeared in Intelligence Bulletin No. 73 is hereby cancelled. G. S. Marshall, O.B.E., D.P.H., from R.A.F. Depot (Inland Area) to Research Laboratory and Medical Officers' School of Instruction (Coastal Area). 23.8.22.

Flight Lieutenants: I. M. Matheson, from No. 39 Squadron (Inland Area) to Armament and Gunnery School (Inland Area) (Supernumerary). 21.8.22. Hon. Sqdn. Ldr. W. R. Kemp, B.A., from C. and M. Party, Felixstowe (Coastal Area) to Marine and Armament Experimental Establishment (Coastal Area). 14.8.22. Act. Sqdn. Ldr. F. C. Kempson, M.B., B.A., from C. and M. Party, Donibristle (Coastal Area) to R.A.F. Base, Leuchars (Coastal Area). 14.8.22. J. C. T. Fiddes, M.B., from No. 1 School of Technical Training (Boys) (Halton) to Headquarters, R.A.F. (Iraq). 10.8.22. C. A. Harrison, to Research Laboratory and Medical Officers' School of Instruction (Inland Area) on appointment to Temporary Commission. For short course of instruction. 8.8.22. A. H. Wann, from R.A.F. Depot (Inland Area) to School of Naval Co-operation and Aerial Navigation (Coastal Area) (Supernumerary). 19.8.22. H. M. Daniel, M.B., from R.A.F. Depot (Inland Area) to Central Fying School (Inland Area). 14.8.22. T. H. K. MacLaughlin, from R.A.F. Depot (Inland Area) to No. 2 Squadron (No. 12 Wing Ireland). 19.8.22. O. St. L. Campion, from No. 2 Squadron (No. 12 Wing Ireland) to R.A.F. Depot (Inland Area). 21.8.22. T. L. P. Harries from Central Flying School (Inland Area) to R.A.F. Depot (Inland Area). 16.8.22. G. B. A. Baker, M.C., from Air Ministry (D.T.O.) to School of Photography (Inland Area) (Supernumerary). 1.9.22. W. H. Longton, D.F.C., A.F.C., from Headquarters (Inland Area) to Air Ministry (D.T.S.D.). 1.9.22. H. H. James, from R.A.F. Depot (Inland Area) to Boys' Wing (Cranwell). 22.8.22. W. E. C. B. C. Forsyth, from Aircraft Depot (Middle East) to No. 4 Flying Training School (Middle East). 1.8.22. J. A. Perdrau, M.D., from R.A.F. Depot (Inland Area) to School of Technical Training (Men) (Inland Area). 22.8.22. J. A. Musgrave, to Research Laboratory and Medical Officers' School of Instruction (Coastal Area) on appointment to a Short Service Commission. For short course of instruction. 17.8.22. J. K. R. Landells, M.B., to Research Laboratory and Medical Officers' School of Instruction (Coastal Area) on appointment to a Short Service Commission. For short course of instruction. 16.8.22. M. Coghlan, M.B., from Research Laboratory and Medical Officers' School of Instruction (Coastal Area) to R.A.F. Depot (Inland Area) (Supernumerary). 23.8.22. J. W. H. Steil, M.B., from Research Laboratory and Medical Officers' School of Instruction (Coastal Area) to Headquarters (Coastal Area) (Supernumerary). 23.8.22.

AIRISMS FROM THE FOUR WINDS.

THERE is again talk of forming an Aero Club for the north. A meeting of ex-pilots and others interested has been arranged for September 15 in Manchester, when the suggestion will be dealt with. The idea is to keep alive the practical sporting side of aviation, and enable ex-pilots and observers to keep their hands in against the time for more extended developments to materialise. Maj.-Gen. Sir Sefton Brancker is said to look upon the scheme with favour.

A MOVE is being made by the Bulgarian Government through the Ministry of Posts and Telegraphs, for the acquisition, as a start, of a quartette of postal-passenger 'planes. Tenders are being invited, it being specified that the machines, which must be delivered in Bulgaria, must have accommodation for 6 to 10 persons, and the successful firm must undertake the teaching of the local *personnel*, 40 to 50 in number, in the use of the machines.



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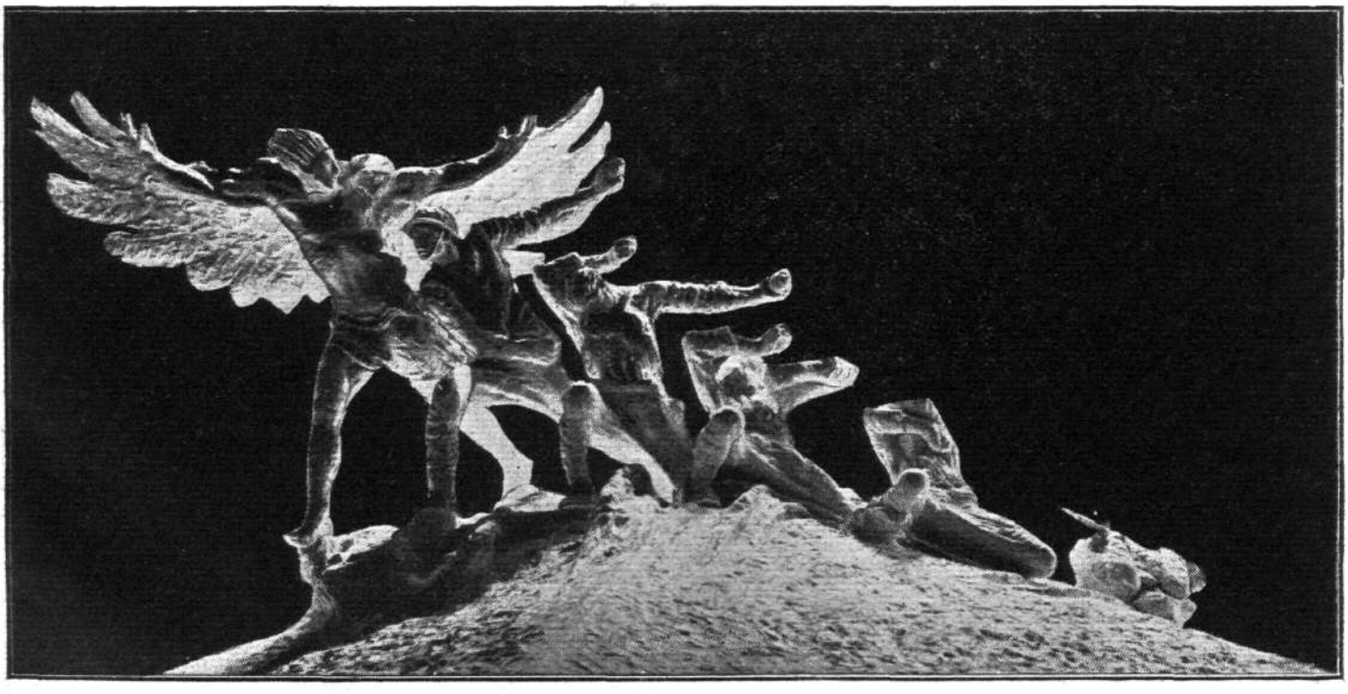
ITALY'S WAR MEMORIAL: A plan view of the scheme for the memorial on the Carso battlefield,



Reproduced by courtesy of "The Times."

ITALY'S WAR MEMORIAL: A beautiful conception by the Genoese sculptor, Eugenio Baroni, which has been accepted by the Italian National Committee for a War memorial to be erected overlooking the battlefield of the Carso. It will take the form of a huge cross (as seen in the other photograph), and at eight points there will be allegorical groups of statuary. The above photograph shows the main group, which is highly suggestive of "winged man" leading the forces, whilst the plan design suggests the form of an aeroplane.

QUITE interesting data ought to result as a natural sequence to the appointment, recently announced, of British Instructional Films, Ltd., to be official cinematographers to the Royal Zoological Society. As a first move, Mr. Oliver G. Pike, F.R.Z.S., is making a trip to the Farne Islands, where he hopes to secure an exhaustive series of pictures of sea-birds in flight, a study of vast interest to aeronautical researchers. The idea is to test a theory that has been put forward by Mr. W. Pycraft, of the British Museum of Natural History, with regard to the similarity between the flight of birds and the swimming of fish.

This theory was first put forward after the exhibition of Mr. Edgar Chance's remarkable cuckoo film, and as a result a special film was taken with an ultra-rapid camera, which slows down the movement on the screen to about a tenth of the normal rate. The evidence gained from this film added support to the theory. It is claimed that both birds and fish resemble the turtle when in motion, and arrangements have now been made to take an extensive series of pictures of turtles at the Zoo. Already a large number of instructive photographs have been taken of fish. There was at first some difficulty in obtaining permission to pay a visit to the Farne Islands, as films have never been taken there before, but the Natural History Museum have managed to make the necessary arrangements.

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MR. HOLT THOMAS has a happy knack of putting his finger upon the vitally weak point in any anti-aeronautical controversialists' arguments. His latest effort in this direction, in the case of a letter to *The Times* on "The Decisive Arm," Sir Reginald Bacon appears to be well up to his usual form. The points made by Mr. Holt Thomas are sufficiently self-evident to spare giving Sir Reginald's original communication. Thus Mr. Holt Thomas :—

"Sir Reginald Bacon 'recalls to the minds of non-technical readers fundamental axioms' :—

"(1) 'Airplanes cannot supersede sea transport.' Perfectly true, neither will they supersede railways or motor-cars, but a sufficient aerial attack can prevent all these being of interest by, as the Admiral himself states, 'poisoning whole towns and districts.' It is no use bringing imported food to us when we are dead, as he acknowledges we shall be.

"(2) 'Invasion cannot be carried out by an air force until its units can carry 6-in. guns and ammunition.' Admiral Bacon acknowledges we are already dead. Where do the 6-in. guns come in ?

"(3) 'Supposing aerial invasion possible, sea transport is cheaper.' Food prices cease to interest us when we are dead.

"(4) 'An air force cannot prevent invasion.' It is the *only* thing that can prevent an aerial invasion, which is the first thing we have to fear. If that succeeds, we are dead, and are not particular as to any other invasion which may follow.

"(5) 'Our sea force can operate in distant waters.' Very true, but this will cease to interest us when we are already dead.

"(6) 'Successful attack by aircraft on capital ships is doubtful.' This may be correct or not, but we are dead, and really do not mind whether the capital ships are sunk or not.

"(7) 'Aircraft have improved, and so, therefore, have their defensive powers against aircraft.' Quite true, but we have not got enough of them to prevent attack, whilst other nations are building hundreds.

"(8) 'The protection of our ships has progressed greatly.' They may be quite immune from attack, so far as I am concerned, but they cannot prevent foreign aeroplanes from laying us all out dead.

"I am sorry to enter into a controversy which should never arise—namely, capital ships *or* aeroplanes, as we certainly want a Navy ; but it is quite certain the ship cannot work without the air. It is equally certain that the air can work without the ship, and, if there is not enough money for both, let us first protect ourselves against what everyone knows will be the first, and probably decisive, move in the next war —which God forbid—namely, the most hideous and horrible devastation of life and property from the air."

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LONDON TERMINAL AERODROME

Monday evening, August 28

ALARMING and sensational accounts of a mishap to one of the Messageries Aérienne's "Goliaths" appeared in the daily newspapers during the week. All the usual sensational "dives to earth" and "explosions" were featured, together with the survivors' experiences. It is only to be expected that this sort of thing will happen when the chief passenger traffic consists of tourists who are constantly on the look-out for something whereby they can achieve notoriety, and make out that they have had a marvellous escape. Although the machine was badly damaged, there was not much risk for the passengers. What really happened was that one of the engines cut out while the machine was about 500 ft. over a wood, and the pilot was forced to descend on the tree-tops. He told the assistant-pilot to get all the passengers in the rear of the cabin, and then landed as best he could on the tree-tops. According to the account of a passenger who was not wanting any cheap notoriety, the only "damage" to the passengers was sustained as they were getting out of the machine, when one of them tore his clothing.

The weather shut down on the machines in flight on Thursday evening, with the result that quite a crowd of them were forced to land and stay the night at St. Inglevert, Lympne, and Penshurst. All completed their journeys next morning in good time.

Some Fast London-Paris Flights

STRONG north-west winds have been responsible for rapid journeys to Paris, and also for some prolonged flights from Paris. A D.H. 34 of the Instone Air Line flew from Croydon to Le Bourget in 1 hour 41 minutes, and a Daimler D. H. 34 accomplished the same journey in 1 hour 46 minutes. On the same day the incoming machines had in many cases to land at Lympne and Penshurst for petrol. A Daimler 34 which landed at Penshurst had to have petrol sent out, as there is no store there. This is one of the irritating little faults in the organisation of the airway that could very easily be remedied. Surely it is not too much to ask that, say, 50 gallons of petrol should be stored at this emergency aerodrome. I understand that one of the new "T" landing-light signs is to be placed there, but, considering the attitude of the insurance companies towards night flying, 50 gallons of petrol would appear to be of much more practical use and certainly cheaper.

The big fire at Calais docks provided the Surrey Flying Services with more work. They flew a photographer over for *The Daily Mirror*, and also a cinema-man from Pathé's, to take photographs of the fire. It is rather strange that, although the fire could be seen from the English coast, none of the pilots flying along the airways appear to have noticed anything.

French Development of Goods Traffic

THE Messageries Aériennes have taken over the Instone Air Line goods traffic, and are now going "full out" to capture the rest of the goods traffic between London and Paris. Their connections by air beyond Paris place them in a unique position for the handling of goods for places as far apart as Africa and Marseilles on the south, Constantinople in the east, and Amsterdam in the north, as they are able to quote through rates for these places. I understand that they intend to have a Customs' clerk on board their Goliaths next year, in order that the time spent in preparing the necessary papers at either end shall be cut down to a minimum.

The Instone Air Line continue their policy of retrenchment, and have dismissed numbers of their staff. During the week they have been running reduced services, owing chiefly to the slight fall in the traffic.

The control-tower is now in full working order, and has been re-christened the Duty Office, while the old Duty Office now becomes the Communications' Office. In the control tower itself there is now one of the C.A.T.O.'s always on duty, together with a wireless operator. The old wireless hut has been converted into what is virtually a wireless telephone exchange, where the operator in the control tower is "connected" with the machines in flight. Each machine fitted with wireless now "rings up" and reports its position at regular intervals, and this information is immediately passed on to the firm concerned, so that the progress of the machine is known throughout its journey.

In addition, the man who waves the starting flag has been installed on the balcony round the control tower, and has been made look-out man. He now operates the Klaxon horn that announces in Morse the company to whom approaching machines belong. As was to be expected, the new glass roof and sides of the tower have earned for it the name of "The Cucumber Frame." A new arrangement for signalling the priority in which machines are to depart is to come into operation shortly. This consists of a number of discs, on which are painted the registration numbers of the various machines, one of these being exhibited when a machine is ready to depart.

Popularity of the Handley Page W.8's

NEARLY six hundred passengers have again passed through the air station this week, HandleyPage Transport, as usual, carrying the largest number. The W.8's of this Company are running remarkably well, and passengers are loud in their praise of the comfort and roominess of the cabins.

On Friday Mr. Stocken broke the record for a flight to Brussels, accomplishing the journey in 75 minutes. I hear that the Aircraft Disposal Company are to enter two machines for the King's Cup Race round Britain, and that the pilots will be chosen from Messrs. Perry, Piercy and Stocken.

The Grand Express are having considerable success with their service to Switzerland. The other day a lady arrived at Le Bourget after the machine had left for Lausanne, and, although the machine was half-an-hour's flight away, it was recalled by wireless, with the result that one delighted lady arrived at Lausanne three hours afterwards. The return journey from Lausanne to London is accomplished by the Grands Express in one day.

The K.L.M. have had a large increase in passengers, and their machines are now flying with practically full loads, as the goods traffic continues large. The new Rolls-Fokkers are now flying regularly on the service.

On Monday morning the Daimler Airways turned their early morning machine into an aerial cattle-truck, having a pedigree pig and also a sheep consigned by them from Yorkshire to Paris. The Napier engines used exclusively by this line are putting up a magnificent performance. In fact, it is months since they had a forced landing due to engine trouble. Although the wonderful organisation of the Daimler engine repair-shops is to a great extent responsible for this, no amount of organisation will make a "dud" engine into a good one.

Captain Muir and Mr. Youell were both busy with joy-riders over the week-end. The number of people who wish to be "stunted" is steadily growing, a sure indication that the general public is gradually losing its distrust of flying. The Surrey Flying Services are expecting to have an "Avro" ready to replace the one damaged by the involuntary descent in the cornfield last week, and they are also puching forward with the work on the D.H.9, which they are to use for "Taxi" work.

Lieut. Stampe, the pilot who has had the honour of piloting the aeroplanes of the King of the Belgians, arrived at the air-station by air on Monday, piloting a D.7 Fokker biplane of German war-type build, which has been converted into a tourer. Lieut. Stampe is over here to purchase training machines for the flying-school he is starting in Belgium.

SIDE-WIND

THE social side of many large business houses is often sadly neglected, usually due to lack of support on the part of the directors and management. The other side of the picture was seen on Saturday last, when S. Smith and Sons (M.A.), Ltd., well-known manufacturers of motor accessories, held their Annual Sports. The glorious weather helped to bring a record crowd to the fine playing fields at Neasden belonging to Smiths (M.A.), where sport and merry-making were intermingled from 2 p.m. well into the evening.

One of the principal events of the day—the 100 Yards Race for Directors and Departmental Managers—was won, to the delight of everyone, by the Managing Director, A. Gordon Smith, Esq., with the Works Manager, Mr. B. Haviland, second. Other events included a 60 Yards Blind-fold Race and a "Donkey Derby," both causing much laughter and good-humoured chaff. Mrs. Gordon Smith very kindly presented the prizes, and the day ended with dancing in the spacious Pavilion, music being provided by the Orphan Fund Band of the N.U.R.

SOCIETY OF MODEL AERONAUTICAL ENGINEERS
(London Aero-Models Association.)

MR. FELIX KELLY'S CHALLENGE CUP.—The competition for this has been postponed from September 2 to September 16, in order to permit the many competitors to complete their models.

Mr. W. E. Evans has kindly offered a challenge cup for model gliders. The minimum span to be 1 metre, minimum loading 3 ozs. per sq. ft. Full details will be published next week. Mr. D. H. Pilcher has kindly given a challenge cup for enclosed *fuselage* models, to be competed for. Full particulars will be published next week.

Members turned up in good numbers at Headquarters last week to congratulate those members who had successfully broken British records the Sunday previously.

A great deal of useful business was got through, and the prospects of having all business matters settled for the extraordinary general meeting on the first Thursday in October look bright. Suggestions for the improvement of the Society are always welcomed, especially from the country members, and should be addressed to the Hon. Secretary, A. E. Jones, 48, Narcissus Road, West Hampstead, N.W. 6. Headquarters, 20, Great Windmill Street, Piccadilly, W. 1, every Thursday at 7.30 p.m.

London-Moscow in an Avro Baby, 35 h.p. Green engine: A few weeks ago a very remarkable flight was made from London to Moscow in an Avro Baby. The pilot, a Russian named Gwailer, is seen in the photograph, which was taken just before the start of the flight. The machine was held up for some considerable time in Germany, the strange combination of a Russian pilot in a British machine, alighting on German soil, leading to complications. However, all difficulties were smoothed out ultimately, and the machine reached its goal in safety.

Petters, Ltd.

THE Government policy of saving at the last moment the complete annihilation of the British aircraft industry must give heart to those firms who have backed their belief in the future by holding on to their aeronautical organisation in spite of the poor encouragement by the Cabinet. Amongst these we are glad to enumerate Messrs. Petters, Ltd., who have been so helpful in the past in furthering the interests of aviation. The directors' report to March last mentions that their aircraft works satisfactorily completed the contract referred to in their last report, and have a certain amount of work on hand for Government, which justifies the directors in retaining this branch of business for the time being. The directors feel that having regard to equipment of aircraft work, with adjacent aerodrome, and high standard of skill acquired by technical staff and the workers, and also to imperative necessity of maintaining aircraft industry in this country, it would be a great misfortune if this branch of the business had to be abandoned, and are hopeful that it will yet prove a useful asset to the company.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motors.

The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1921

Published August 31, 1922

11,976. J. S. DREW. Aeroplanes. (183,904.)
15,012. H. J. LE PUL. Planes of aeroplanes. (183,973.)
20,603. A. LAMBLIN. Removable motor unit with aerial propeller for propelling vehicles. (167,481.)

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